

REMARKS

Sixty-two claims were originally filed in the present Application. Claims 1-62 currently stand rejected. Claims 24, 29, 54, and 59 are objected to, but would be allowable if rewritten to overcome the rejections under 35 USC 112, second paragraph, and to include all limitations of the base claim and any intervening claims. Claims 1, 6, 7, 15, 24, 29, 31, 36, 37, 45, 54, and 59 are amended, and claims 5 and 35 are cancelled herein. Reconsideration of the Application in view of the foregoing amendments and the following remarks is respectfully requested.

Rejection under 35 U.S.C. §112, Second Paragraph

In paragraph 3 of the Office Action, the Examiner indicates that claims 5-13, 15-18, 21-30, 35-43, 45-48, and 51-60 are rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, the Examiner states that "Applicants need to provide a more precise definition" for the claimed terms "plesiochronous process", "endochronous", and "exochronous". As grounds for the rejections, the Examiner states that the foregoing terms are "not defined by the claims nor well defined by the specification. Applicants respectfully traverse.

Applicants submit that all three of the foregoing cited terms are clearly defined in the Specification. For example, Applicants refer the Examiner to FIG. 8 which is discussed from page 18, line 26 through page 23, line 27 of the Specification in which Applicants define and contrast "endochronous",

“exochronous”, “isochronous”, and “plesiochronous” in substantial detail.

Applicants submit that these terms are well defined at least by the detailed discussion of their various characteristics and functionalities.

For example, with regard to the term “endochronous”, Applicants teach that “[t]ogether, isochronous processes 822 and plesiochronous processes 826 form endochronous processing 818 because both types of processes are related to the same time domain which includes the isochronous cycle sequence illustrated in the FIG. 8 embodiment.” Applicants submit that, for at least the foregoing reasons, the term “endochronous” is not indefinite.

In addition, with regard to the term “exochronous”, Applicants disclose that “scheduling operations that occur outside the cycle time domain of the isochronous and plesiochronous processes may be termed exochronous processing 814. In the FIG. 8 embodiment, the execution of various system level processes is preferably included in the foregoing exochronous processing 814. These system level processes preferably include tasks and processes from the host operating system’s normal execution environment.” Applicants submit that, for at least the foregoing reasons, the term “exochronous” is not indefinite.

Finally, with regard to the term “plesiochronous process”, Applicants teach that “[i]sochronous processes 822 preferably are treated as the highest-priority processes. Plesiochronous processes 826 are treated as the second-highest priority processes, and are preferably scheduled after exiting from isochronous process scheduling and execution.” Applicants further disclose that “. . . plesiochronous processes can generally tolerate more latency in their scheduling, as well as less

determinism in their execution. For example, a particular plesiochronous process may have *a lesser degree of importance, have a relatively long duration, or require resources that are not available at the isochronous level*. In certain embodiments, isochronous processes 822 may often be associated with relatively short transfers of a particular set of isochronous data, while corresponding plesiochronous processes 826 may be associated with relatively longer processing functions for the particular set of isochronous data.”

For at least the foregoing reasons, Applicants submit that the terms “endochronous”, “exochronous”, and “plesiochronous process” are clearly described in the Specification, and are thus not indefinite when recited in the rejected claims. In view of the foregoing remarks, Applicants therefore respectfully request that the rejection under 35 U.S.C. §112, second paragraph, be withdrawn so that claims 5-13, 15-18, 21-30, 35-43, 45-48, and 51-60 may issue in a timely manner.

35 U.S.C. § 102(e)

In paragraph 6 of the Office Action, the Examiner rejects claims 1-7, 9-12, 14, 19, 31-37, 39-42, 44, 49, and 61-62 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,625,743 to Gulick (hereafter Gulick). The Applicants respectfully traverse these rejections for at least the following reasons.

“For a prior art reference to anticipate in terms of 35 U.S.C. §102, every element of the claimed invention must be *identically* shown in a single reference.” *Diversitech Corp. v. Century Steps, Inc.*, 7 USPQ2d 1315, 1317 (CAFC 1988). The

Applicants submit that Gulick fails to identically teach every element of the claims, and therefore does not anticipate the present invention.

Regarding the Examiner's rejection of independent claims 1 and 31, Applicants respond to the Examiner's §102 rejection as if applied to amended independent claims 1 and 31 which are now amended to recite "*a picokernel configured to schedule and execute one or more selected processes in an electronic device, said one or more selected processes including an isochronous process and a plesiochronous process*" which are limitations that are not taught or suggested either by the cited references, or by the Examiner's citations thereto. Applicants submit that the foregoing amendments are supported by claims 5 and 35, as originally filed, and therefore do not necessitate a new search.

Gulick teaches synchronizing a plurality of clocks to a "master clock" to support time-dependent data (see column 2, lines 1-47). However, Gulick nowhere discusses scheduling and executing a "plesiochronous process" as claimed by Applicants. Applicants therefore submit that Gulick fails to anticipate Applicants' invention, as recited in amended claims 1 and 31.

With regard to claim 62, "means-plus-function" language is utilized to recite elements and functionality similar to those recited in claims 1 and 31 as discussed above. Applicants therefore incorporate those remarks by reference with regard to claim 62. In addition, the Courts have frequently held that "means-plus-function" language, such as that of claim 62, should be construed in light of the Specification. More specifically, means-plus-function claim elements

should be construed to cover the corresponding structure, material or acts described in the specification, and equivalents thereof.

Applicants respectfully submit that, in light of the substantial differences between the teachings of Gulick and Applicants' invention as disclosed in the Specification, claim 62 is therefore not anticipated or made obvious by the teachings of Gulick. Applicants specifically direct the Examiner's attention to Applicants' discussion of FIG. 8 (Specification, page 18, line 26 through page 23, line 27) which describes in detail the Applicants' claimed "means for scheduling" and "means for executing".

Regarding the Examiner's rejection of dependent claims 2-4, 6-7, 9-12, 14, 19, 32-34, 36-37, 39-42, 44, and 49, for at least the reasons that these claims are directly or indirectly dependent from respective independent claims whose limitations are not identically taught or suggested, the limitations of these dependent claims, when viewed through or in combination with the limitations of the respective independent claims, are also not identically taught or suggested. Applicants therefore respectfully request reconsideration and allowance of dependent claims 2-4, 6-7, 9-12, 14, 19, 32-34, 36-37, 39-42, 44, and 49 so that these claims may issue in a timely manner.

Because a rejection under 35 U.S.C. §102 requires that every claimed limitation be *identically* taught by a cited reference, and because the Examiner fails to cite Gulick to identically teach or suggest the claimed invention, Applicants respectfully request reconsideration and allowance of claims 1-7, 9-12,

14, 19, 31-37, 39-42, 44, 49, and 61-62, so that these claims may issue in a timely manner.

35 U.S.C. § 103

In paragraph 22 of the Office Action, the Examiner rejects claims 8, 13, 38, and 43 under 35 U.S.C. § 103 as being unpatentable over Gulick in view of U.S. Patent No. 5,815,504 to Doi (hereafter Doi). The Applicants respectfully traverse these rejections for at least the following reasons.

Applicants maintain that the Examiner has failed to make a *prima facie* case of obviousness under 35 U.S.C. § 103(a) which requires that three basic criteria must be met, as set forth in M.P.E.P. §2142:

"First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations."

The initial burden is therefore on the Examiner to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a).

With regard to claims 8, 13, 38, and 43, the Examiner repeatedly concedes that Gulick fails to disclose "the additional limitation as claimed" Applicants concur. The Examiner then points to Doi to remedy these deficiencies. Applicants respectfully disagree with the Examiner's interpretation of Doi.

Doi is limited to teachings regarding "a dual mode clock generator" that generates a clock signal for a read/write circuit that receives either a PDH signal or a SDH signal (see column 1, lines 30-65). However, Applicants submit that Doi nowhere discusses scheduling or executing either isochronous or plesiochronous processes as recited in rejected claims 8, 13, 38, and 53. Applicants therefore submit that the rejections of claims 8, 13, 38, and 53 are improper.

Also regarding the Examiner's rejection of dependent claims 8, 13, 38, and 53, for at least the reasons that these claims are directly or indirectly dependent from respective independent claims whose limitations are not identically taught or suggested, the limitations of these dependent claims, when viewed through or in combination with the limitations of the respective independent claims, are also not identically taught or suggested. Applicants therefore respectfully request reconsideration and allowance of dependent claims 8, 13, 38, and 53 so that these claims may issue in a timely manner.

For at least the foregoing reasons, the Applicants submit that claims 8, 13, 38, and 53 are not unpatentable under 35 U.S.C. § 103 over Gulick in view of Doi, and that the rejections under 35 U.S.C. § 103 are thus improper. The Applicants therefore respectfully request reconsideration and withdrawal of the rejections of claims 8, 13, 38, and 53 under 35 U.S.C. § 103.

In paragraph 26 of the Office Action, the Examiner rejects claims 15-18, 20, 45-48, and 50 under 35 U.S.C. § 103 as being unpatentable over Gulick in view

of U.S. Patent No. 6,502,123 to Gulick (hereafter Gulick-2) The Applicant respectfully traverses these rejections for at least the following reasons.

Applicant maintains that the Examiner has failed to make a *prima facie* case of obviousness under 35 U.S.C. § 103(a). As discussed above, for a valid *prima facie* case of obviousness under 35 U.S.C. § 103(a), the prior art references when combined must teach or suggest all the claim limitations." The initial burden is on the Examiner to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a).

With regard to claims 15-18, 20, 45-48, and 50, the Examiner repeatedly concedes that Gulick fails to disclose "the additional limitation as claimed." Applicants concur. The Examiner then points to Gulick-2 to remedy these deficiencies. Applicants respectfully disagree with the Examiner's interpretation of Gulick-2.

Gulick-2 teaches using only applications that are "certified to be well-behaved" to perform isochronous tasks, and terminating the isochronous tasks if a maximum duration for the task is exceeded (see column 2, lines 39-67). However, Applicants submit that Gulick-2 nowhere teaches scheduling and executing a "plesiochronous process" as claimed by Applicants.

Further regarding the Examiner's rejection of dependent claims 15-18, 20, 45-48, and 50, for at least the reasons that these claims are directly or indirectly dependent from respective independent claims whose limitations are not identically taught or suggested, the limitations of these dependent claims, when viewed through or in combination with the limitations of the respective

independent claims, are also not identically taught or suggested. Applicants therefore respectfully request reconsideration and allowance of dependent claims 15-18, 20, 45-48, and 50, so that these claims may issue in a timely manner.

For at least the foregoing reasons, the Applicants submit that claims 15-18, 20, 45-48, and 50 are not unpatentable under 35 U.S.C. § 103 over Gulick in view of Gulick-2, and that the rejections under 35 U.S.C. § 103 are thus improper. The Applicants therefore respectfully request reconsideration and withdrawal of the rejections of claims 15-18, 20, 45-48, and 50 under 35 U.S.C. § 103.

In paragraph 33 of the Office Action, the Examiner rejects claims 21-23, 25-28, 30, 51-53, 55-58, and 60 under 35 U.S.C. § 103 as being unpatentable over Gulick in view of Gulick-2, and further in view of Doi. The Applicant respectfully traverses these rejections for at least the following reasons.

Applicant maintains that the Examiner has failed to make a *prima facie* case of obviousness under 35 U.S.C. § 103(a). As discussed above, for a valid *prima facie* case of obviousness under 35 U.S.C. § 103(a), the prior art references when combined must teach or suggest all the claim limitations." The initial burden is on the Examiner to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a).

Applicants respectfully traverse the Examiner's assertion that modification of the device of Gulick according to the teachings of Gulick-2 and Doi would produce the claimed invention. Applicants submit that Gulick in combination

with Gulick-2 and Doi fail to teach a substantial number of the claimed elements of the present invention. Furthermore, Applicants also submit that neither Gulick, Gulick-2, nor Doi contain teachings for combining the cited references to produce the Applicants' claimed invention. The Applicants therefore respectfully submit that the obviousness rejections under 35 U.S.C §103 are improper.

Regarding the Examiner's rejection of dependent claims 21-23, 25-28, 30, 51-53, 55-58, and 60, for at least the reasons that these claims are directly or indirectly dependent from respective independent claims whose limitations are not identically taught or suggested, the limitations of these dependent claims, when viewed through or in combination with the limitations of the respective independent claims, are also not identically taught or suggested. Applicants therefore respectfully request reconsideration and allowance of dependent claims 21-23, 25-28, 30, 51-53, 55-58, and 60, so that these claims may issue in a timely manner.

In addition, although the Examiner here rejects claims 21-23, 25-28, 30, 51-53, 55-58, and 60, a substantive written examination has been provided only for claims 21-22 and 51-52. With regard to the remaining claims, in paragraph 36, the Examiner only cursorily states that "[c]laims 23, 25-28, 30, 51-53, 55-58, and 60 are rejected on the same ground as stated above." Applicants respectfully submit that since claims 23, 25-28, 30, 53, 55-58, and 60 have a substantial number of claimed limitations which have not been addressed elsewhere by the Examiner in writing, it is therefore improper to reject these claims "on the same

ground as stated above.” In other words, twelve of the rejected claims have received no substantive written examination.

Applicants therefore respectfully submit that Applicants’ originally-filed claims have not received an adequate examination. Applicants also submit that claims 23, 25-28, 30, 53, 55-58, and 60 contain a substantial number of patentable elements and functionalities, and therefore merit a more thorough and complete examination. Applicants therefore respectfully request the Examiner to issue a new non-final Office Action that substantively addresses each of Applicants’ dependent claims 23, 25-28, 30, 53, 55-58, and 60, or in the alternative, to reconsider and allow claims 23, 25-28, 30, 53, 55-58, and 60 so that these claims may issue in a timely manner.

Furthermore, the Court of Appeals for the Federal Circuit has held that “obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination.” In re Geiger, 815 F.2d 686, 688, 2 U.S.P.Q.2d 1276, 1278 (Fed. Cir. 1987). Applicants submit that the cited references do not suggest a combination that would result in Applicants’ invention, and therefore the obviousness rejection under 35 U.S.C §103 is improper.

With regard to claims 21 and 22, the Examiner repeatedly states that “[i]t would have been obvious” to combine the cited references so that “the system is capable of processing a variety of different signals” or so that “isochronous tasks can be executed more reliable (sic)” Applicants respectfully submit that a *general restatement of the advantages disclosed by the Applicants* deriving from

implementation of the present invention cannot act as the required teaching or suggestion to combine cited references for a proper rejection under 35 U.S.C. § 103. Courts have repeatedly held that "it is impermissible . . . simply to engage in *hindsight reconstruction* of the claimed invention, using the Applicants' structure as a template and selecting elements from references to fill in the gaps." In re Gorman, 18 USPQ 1885, 1888 (CAFC 1991).

For at least the foregoing reasons, the Applicants submit that claims 21-23, 25-28, 30, 51-53, 55-58, and 60 are not unpatentable under 35 U.S.C. § 103 over Gulick in view of Gulick-2 and Doi, and that the rejections under 35 U.S.C. § 103 are thus improper. The Applicants therefore respectfully request reconsideration and withdrawal of the rejections of claims 21-23, 25-28, 30, 51-53, 55-58, and 60 under 35 U.S.C. § 103.

Allowable Subject Matter

In paragraph 37, the Examiner indicates that claims 24, 29, 54, and 59 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, second paragraph, and to include all of the limitations of the base claim and any intervening claims. In light of Applicants' foregoing remarks regarding the rejections under 35 U.S.C. 112, Applicants therefore amend claims 24, 29, 54, and 59 in independent form including all of the limitations of the base claim and any intervening claims, to thereby place claims 24, 29, 54, and 59 in condition for immediate allowance.

Summary

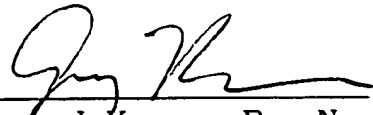
Applicants submit that the foregoing amendments and remarks overcome the Examiner's rejections under 35 U.S.C. §112, 35 U.S.C. §102, and 35 U.S.C. §103. Because the cited references, or the Examiner's citations thereto, do not teach the claimed invention, and in light of the differences between the claimed invention and the cited prior art, Applicants therefore submit that the claimed invention is patentable over the cited art, and respectfully request the Examiner to allow claims 1-4, 6-34, 36-62 so that the present Application may issue in a timely manner. If there are any questions concerning this amendment, the Examiner is invited to contact the Applicants' undersigned representative at the number provided below.

Respectfully submitted,

Date: _____

6/1/04

By: _____



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